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UNCLAS SECTION 01 OF 03 KIEV 000386

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DOE FOR LEKIMOFF, CCALIENDO

SENSITIVE

E.O. 12958: DECL: NA

TAGS: [EPET](#) [ENRG](#) [RS](#) [UP](#)

SUBJECT: UKRAINE: Gas Pipeline Technical Capabilities

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1. (SBU) Summary. Post met with Ukrainian technical experts at Naftohaz and UkrTransGaz following the January 1-3 gas shut-off to learn operational aspects of the gas crisis. Interlocutors provided background on the gas system's capabilities and parameters, and in detail described on which lines gas was cut January 1 and how Ukraine worked through the crisis by distributing the pressure decrease throughout its system. According to the experts, the January 4 agreement's price basket of \$95/tcm and 1.60/tcm/100km was not economically justified, even if the transit rate now was supposed to cover the purchase of technical gas. All interlocutors stated Ukraine's gas transit system was not damaged by January events. End Summary.

2. (SBU) Econ Officers on January 6 met with Valery Panasiuk, Chief of Naftohaz's Oil and Gas Measurement Department, Feliks Sakadinets, Deputy Chief of Naftohaz's Oil and Gas Transport Department, and Igor Ponomarenko, UkrTransGaz Director of Foreign Relations. Panasiuk led a wide-ranging discussion on Ukraine's gas transit system technical capabilities and on events during the January 1-3 gas shut-off. Econ Officer, along with Staffdel Tillemann, then met separately on January 18 with UkrTransGaz representatives Myroslav Khymko, Director of the United Dispatch Department, Valentyn Kolomieiev, First Vice Chairman of the Board and Production Director, and Kostiantyn Yefymenko, Member of the Board of Directors. Mr Ponomarenko also attended the January 18 meeting. (Note: UkrTransGaz is a wholly-owned subsidiary of state-owner oil and gas monopoly Naftohaz. The subsidiary's operations include natural gas transit, storage, and delivery in Ukraine.)

General Characteristics

3. (U) Ukraine's gas transportation system consists of 36,500 km of gas pipelines with 11 inputs points to Ukraine, 4 outlet points to Europe, 71 gas pumping stations with total capacity of 5.4 million kW, 12 underground storage facilities with 34 bcm available storage capacity (total capacity is about 50 bcm, but 16 bcm is required for maintaining necessary pressure levels), 1,405 gas distributing stations, and a network of gas metering stations.

4. (SBU) Originally built exclusively for transit purposes, the pipeline system over time has become cluttered with small branch lines that connect the system's main pipelines with surrounding towns and villages. This now makes it impossible to separate domestic gas supplies from transit resources, the Naftohaz officials explained. To ensure that correct amounts of gas transit to Europe, Naftohaz 'balances' its flow of incoming and outgoing transit gas by using stored gas from underground facilities at Ukraine's western border to add to export amounts and make up for volumes taken out within the Ukrainian territory. The system technically can maintain hourly balances of transit volumes, but the minimum commercial period Naftohaz uses for its accounting purposes is 24 hours. According to contracts and technical agreements signed by Naftohaz and Gazprom, a one-day accounting period runs from 0900 to 0900 the following day, Kiev time, or from 1000 to 1000, Moscow time. This time accounting explained why Gazprom chose 1000 January 1 to stop delivering Ukraine's gas supply, said Naftohaz's Panasiuk; 1000 on January 1 corresponded to the start of the new accounting year.

Technical, Fuel, and Pressure Gas

5. (SBU) Technical gas consisted of several components, Panasiuk continued, the largest of which was fuel gas. Of Ukraine's 6.5 bcm of technical gas, about 5.2 bcm was fuel gas, which is used for fueling compressors at Ukraine's 71 gas pumping stations. Another one bcm of technical gas remained in the system at all times to maintain pressure. Most of the equipment installed at pumping stations was old

and ineffective. The maximum efficiency rate of the stations' gas-fueled turbine engines was a woeful 40%. If replaced with electric-powered engines, in addition to saving fuel gas and reducing gas emissions to the atmosphere, the minimum efficiency rate of engines could reach 90%, the experts said. (Note: on January 18 Prime Minister Yekhanurov noted that Ukraine used 7.8 bcm of gas for production and technical purposes. He said this was "an extremely large amount" [more than 10% of Ukraine's yearly demand] and ordered Minister of Fuels and Energy within a week to draw up plans to conserve at least 10% of the amount, and to gradually convert Ukraine's transit system to electricity-powered compressors.)

16. (U) Under Addendum Four from 9 August 2004, Panasiuk explained, Russia paid Ukraine \$1.0935/tcm/100km for transit, and Ukraine at its own expense covered the purchase of technical gas. The new transit fee of \$1.60/tcm/100km, fixed in the January 4 agreement for five years, was set at a level to include payments for purchasing 6.5 bcm of technical gas.

New Transit Rate is Not Justified Economically

17. (SBU) Naftohaz's experts said the transit rate of \$1.60/tcm/100km was a political decision and not a rate justified by costs. In the past, the price of gas supplies for Ukraine and the fee for transit across the country had been proportional to one another. The price of \$50/tcm corresponded to \$1.09/tcm/100km transit fee, while the price of \$80/tcm, which was used before 1999, had corresponded to the \$1.75/tcm/100km rate (Note: the proportion, in both cases, was approximately 46:1). The experts added that the purported \$50/tcm price was thus misleading, as the Ukrainian side had only cared about the relation of gas to transit prices. They added that it was Gazprom who initiated the drop from \$80/tcm to \$50/tcm in 1999, apparently to reduce its Russian taxes. Based on this proportion, which had not included the cost of technical gas, the Naftohaz experts thought the correlation (59:1) between \$95 price and \$1.6 seemed illogical.

18. (SBU) According to Panasiuk, Ukraine never truly had paid \$50 for Russian gas. Given the additional cost of technical gas, which was paid for by Naftohaz, the real cost of gas for Ukraine had been closer to \$80 when the transit fee was \$1.09/tcm/100km. \$50 was, however, the benchmark used for calculating how much Russian gas Ukraine would receive as in-kind transit payment according to the following equation: 110 bcm (transit amount) x 1200 km (weighted average distance of transportation) x 1.09/tcm/100km (transit rate) / \$50/tcm. (Note: the 1200 km weighted average pipeline distance quoted by Panasiuk is significantly different from the Deutsche Bank estimate of 879 km, which has been used in some Washington analyses)

Ukraine's System Continued to Operate after Pressure was Reduced

19. (SBU) The successful operation of Ukraine's gas pipeline system, explained Feliks Sakadinets, Deputy Chief of Naftohaz's Oil and Gas Transport Department, required a certain baseline pressure throughout. If pressure decreased to a critical level, compressors at gas pumping stations either consumed all the gas to continue the compressor's own operations or "fell apart", i.e. broke down. This would not only have meant no gas supply for Ukraine, but also no gas exports moving through the Ukrainian system to Europe. According to Panasiuk, when Russia stopped fuel supplies to Belarus in 2004, the Belarusian system 'fell apart' very quickly, within one day. Panasiuk and Sakadinets estimated that if Russia stopped supplies to Ukraine, the Ukrainian system could keep transit gas flowing for about 2 days. Panasiuk said Ukraine on January 1-3 had been able to continue operations even at lower pressure and keep servicing transit volumes because of the pipeline system's interconnected pipelines that cross one another at multiple points. When Russia shut off supplies to certain pipelines January 1, Ukraine opened connections between crossing pipelines, and this allowed Ukraine to equalize the pressure in pipelines throughout the system, which alleviated the pressure fall in the Russian-targeted pipelines and kept pressure in these pipelines from reaching a critical level. However, several pumping stations located along pipelines near the affected Russian input points had to be stopped to prevent breaking equipment. This was done, Panasiuk said, in a methodical manner because Naftohaz had been ready and planned for it. Panasiuk added Ukraine had compensated for gas it had to withdraw from the system for its own consumption by adding gas from storage facilities near its western borders to export lines. The Naftohaz officials expressed skepticism about some reports of gas delivery drops in Western Europe. For example, they said Italy was reporting drops of 14 percent in deliveries on January 1,

but added, "our gas would still have taken four days to get there."

110. (SBU) In a separate meeting January 18 with UkrTransGaz officials, Myroslav Khymko, Director of the United Dispatching Department, said Gazprom on January 1 reduced its delivery volumes to Ukraine by 25%. Gazprom reduced volumes to Ukraine's Donetsk/Luhansk line first, followed by the Transdnipr line, and then the Central-Kiev line in the amounts of 45 mcm/day, 45 mcm/day, and 30 mcm/day, respectively. These three lines were located farthest from Ukraine's western border with Europe and as such carried little Europe-bound transit gas. The gas these lines did transport was primarily for Ukraine's industrial centers -- Donetsk, Luhansk, Dnieprpetrovsk and Zaporizhzhya. UkrTransGaz officials could not say if Gazprom intentionally chose to reduce gas to Ukraine's industrial regions to induce maximum economic harm, or if Gazprom had wanted specifically to cut gas intended for Ukraine's domestic use, which these lines provided.

111. (SBU) In contrast to Panasiuk, UkrTransGaz's Khymko reported that during the shut-off, 24 pump stations had been stopped and 96 compressors, equal to half the system's power, had been taken off-line. The system, however, was not damaged as a result of this shut-down. Ukraine had used its own gas production and stored gas to gradually reduce outflows to Europe, in spite of Russia's immediate 25% reduction January 1 -3. (Note: Our interlocutors, as policy implementers and not policy makers, did not discuss why Ukraine made the decision to cut, albeit gradually, Russia's Europe-bound gas.)

112. (SBU) According to the Naftohaz experts, Ukraine and Russia had already reached agreement on how to make up amounts under-supplied in the first days of January and ensure the full January balance. Gazprom would do this by supplying small additional amounts beginning January 3, Panasiuk said.

Gas Metering at the Russian Border -----

113. (SBU) When Ukraine's gas transport system was built, gas metering stations for export gas were placed at the Soviet Union's western borders with Hungary and Poland, but nothing monitored flows between the Ukrainian and Russian republics. After the break-up of the Soviet Union, Russia built metering station on its territory, and Ukraine now had permanent representatives at each Russian export station who daily verified and signed documents on shipment volumes, Naftohaz's Panasiuk explained. The information was sent via an on-line system to Kiev and Moscow. There was some metering equipment at gas pumping stations on Ukrainian side, but it was not as sophisticated as at metering stations, Panasiuk continued. Russia in the past had accused Ukraine of 'playing' with its meters to distort the real amounts of transported gas.

114. (SBU) UkrTransGaz's First-Vice Chairman of the Board and Production Director Valentyn Kolomieiev argued that the in-place Ukrainian representatives were sufficient for verifying volumes received and dispatched. In addition to its representatives in Russia, Kolomieiev noted that Gazprom's subsidiary GazExport and the various importing countries had in-place representatives at Ukraine's western gas metering stations. Sharing representatives and equipment was actually preferable, Kolomieiev explained, since gas measuring equipment was extremely sensitive and an error or even 0.1% would be extremely costly and time consuming. Better, he said, to agree on the amounts with one set of instruments.

115. (SBU) Separately, and somewhat contradictorily, Naftohaz's Panasiuk said Naftohaz had plans to build six metering stations as close to the Russian border pumping stations as possible to better measure and control volumes shipped by Russia. In addition, Panasiuk praised Ukraine's new Regional Metering Center, which would be commissioned on/around March 10 and was built with support from the EU. The facility would improve gas metering technologies in Ukraine and help Ukraine improve its metering system to meet internationally recognized standards.

Herbst